

new and compelling priorities. The long-term benefit has been the initiation of staff consultation and the creation of a more functional health team at the local level of a large national health care system.

Job Achievements of Indian and Non-Indian Graduates in Public Health: How Do They Compare?

MITCHELL V. OWENS, EdD, MPH
CHARLES M. CAMERON, Jr., MD, MPH
PATTI HICKMAN, MPH

The authors are with the College of Public Health, University of Oklahoma Health Sciences Center. Dr. Cameron is Dean, Dr. Owens is Professor and Chairman, Department of Social Sciences and Health Behavior, and Ms. Hickman is Research Assistant.

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Tearsheet requests to Dr. Mitchell V. Owens, Chairman, Department of Social Sciences and Health Behavior, College of Public Health, OUHSC, P.O. Box 26901, Oklahoma City, OK 73190.

Synopsis

A graduate education program in public health for American Indians was introduced in the fall of 1971 at the College of Public Health, University of Oklahoma Health Sciences Center. The program

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was initiated with support from the Office of Economic Opportunity.

Between August 1, 1971, and December 31, 1983, 52 American Indians received public health degrees from the University of Oklahoma's College of Public Health. Of that number, 50 received masters degrees in public health; 1 a PhD; and 1 a DrPH degree. Degrees were granted in these disciplines: biostatistics, epidemiology, environmental health, health administration, health education, and human ecology.

This study assesses the job achievements of 51 of those American Indian graduates. Each Indian was paired with a non-Indian graduate randomly selected from a cluster sample compiled from the school's files of non-Indian graduates.

The results of this study showed that Indian graduates had the kinds and amounts of responsibilities, with the exception of budget approval responsibility, that one would acquire or expect to acquire in a key administrative or staff position. The study further indicated that Indian graduates were generally achieving as much success and satisfaction in their jobs as the non-Indian graduates.

BETWEEN August 1, 1971, and December 31, 1983, 52 American Indians received degrees in public health from the University of Oklahoma's College of Public Health. Of those graduates, 50 received masters degrees; 1 a PhD; and 1 a DrPH. Degrees were awarded in biostatistics, epidemiology, environmental health, health administration, health education, and human ecology.

The University of Oklahoma's College of Public Health initiated its graduate education program in public health for American Indians in the fall of 1971. The program, which was introduced by the College's Department of Health Administration

(with support from the Office of Economic Opportunity), was aimed at educating American Indians to serve as administrators, managers, planners, and other personnel for Indian health care programs and services. The program's overall objective was to increase the number of minority public health professionals who could participate in the growth, staffing, and management of health care services and facilities.

The need for American Indians and Alaska Natives who are qualified health professionals remains greater than the supply, even though a relatively large number of students among these

minorities have been graduated from schools of public health since 1971. The demand has continued to increase because of the implementation in 1975 of the "Indian Self-Determination and Education Assistance Act"—Public Law 93-638—and the implementation in 1976 of the "Indian Health Care Improvement Act"—Public Law 94-437. Public Law 93-638 allows the Secretary of the Department of Health and Human Services to negotiate contractual agreements with tribes to direct their own health programs, and Public Law 94-437 addresses the health needs of the Indians. Further, the Indian Health Service's policy of recruiting competent American Indians to staff positions, including key administrative positions, also has contributed to the shortage of qualified Indian health professionals in other sectors.

Because the State of Oklahoma has an Indian population of approximately 169,000 (1), and because many tribal-directed programs and the Indian Health Service employ large numbers of health care professionals, the State, the Indian Health Service, and the Indian population have a continuing interest in how well the American Indian-Alaska Native graduates from the College of Public Health are performing. A study conducted in 1977 showed that the supervisors of 17 American Indians viewed the Indians' job performances as being very satisfactory (2).

This study assessed the job achievements of 51 of the 52 graduates mentioned earlier. Of them, 31 are employed in administrative and staff positions by the Indian Health Service. Of the remainder—one is deceased—nine are employed in health fields but are not working with Indians; five are working in nonhealth-related jobs for Indian tribes or Indian organizations, or both; four are employed in nonhealth organizations; and two are postgraduate students.

Method

Each Indian graduate was paired with a non-Indian graduate selected randomly from a cluster sample compiled from the college's files on non-Indian graduates. The variables that were matched included sex, age, work experience previous to entering the College of Public Health, kind of degree granted, department granting degree, and date of graduation. A questionnaire specifically designed for comparing job achievements was mailed to each matched pair of graduates. The questions concerned job title and position, job responsibilities, income, number of employees the

Table 1. Job classification of Indian and matched non-Indian graduates in public health, 1985

Job descriptions	Indian respondents		Non-Indian respondents	
	Number	Percent	Number	Percent
Line only ¹	19	43.2	11	25.6
Staff only	2	4.5	8	18.6
Line and staff	23	52.3	24	55.8
Managerial	34	79.1	36	80.0
Nonmanagerial	9	20.9	9	20.0

¹ Line positions are directly related to attaining an organization's objectives.

Table 2. Budget responsibility of Indian and matched non-Indian graduates in public health, 1985

Budget responsibility ¹	Indian respondents		Non-Indian respondents	
	Number	Percent	Number	Percent
Budget management	29	65.9	26	57.8
Budget construction	25	89.3	24	92.3
Budget approval	8	32.0	18	69.2

¹ Median budget range for Indians was \$1 to \$5 million and for the non-Indians, \$0.5 to \$1 million.

graduate supervised, level of job satisfaction or dissatisfaction, awards and other achievements, and future goals.

For analytic purposes, a match was recognized if all these criteria were met:

- The case (Indian) and the control (non-Indian) were the same gender.
- The case and the control received comparable degrees (masters, PhD, or DrPH) from the same department—biostatistics and epidemiology, social sciences and health behavior, health administration, or environmental health.
- Both the case and the control had been graduated from the College of Public Health within 3 years of each other.
- Both the case and the control had similar jobs before entering the College of Public Health.
- The difference in ages between the case and the control was no more than 9 years.

Subsequently, the records of each matched pair were examined to verify that these criteria had been met. Graphs, frequency tables, and the paired *t*-test were used to describe differences, if any, between the two groups.

Figure 1. Indian and matched non-Indian graduates in public health, by race and number of employees supervised, 1985

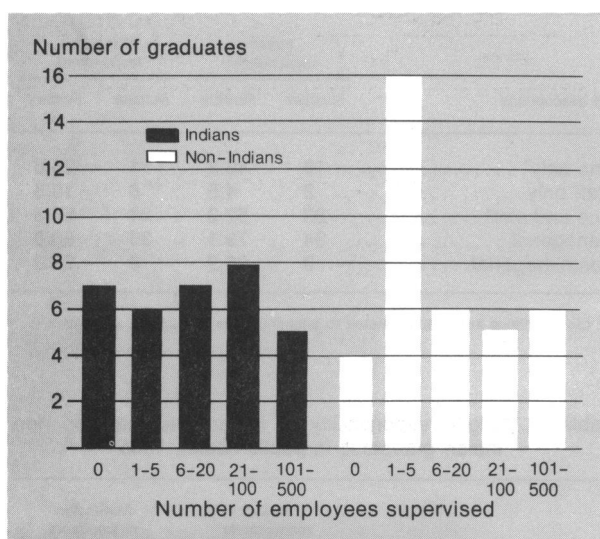
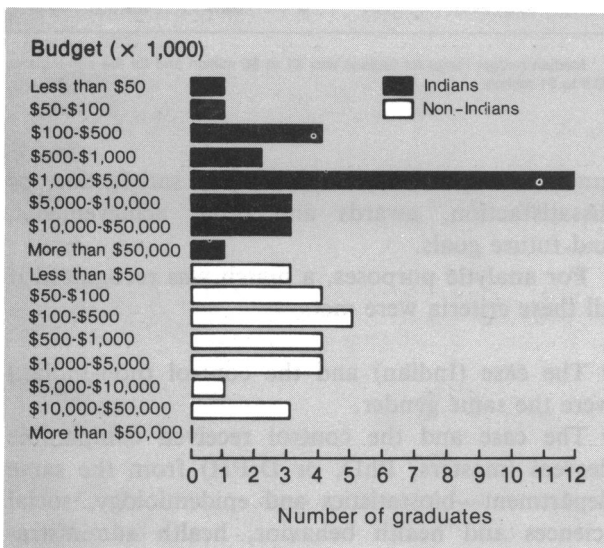


Figure 2. Indians and matched non-Indian graduates in public health, by race and budget group managed, 1985



NOTE: Two graduates from each group who responded yes to having budget responsibilities failed to disclose budget amount.

Results and Discussion

Forty-six graduates from the College of Public Health participated in the study—a response rate of 90.0 percent. Hence, a total of 46 matched pairs was analyzed for comparison. Of those pairs, 14 (30.4 percent) were females and 32 (69.6 percent) were males. Thirty-three pairs were granted degrees in health administration; seven in environmental health; five in social sciences and

health behavior; and one in biostatistics and epidemiology. The age distribution of the two groups follows.

Group	Age range (years) ¹			
	20-29	30-39	40-49	50-59
Number of Indians	1	21	16	8
Number of non-Indians	0	30	14	2

¹The mean age at the time of entry into the program was 40.9 years for Indians and 38.8 years for non-Indians.

Seventy-four graduates responded that they were employed in a position for which they had been prepared in the College of Public Health. Of those respondents, 36 (83.7 percent) were American Indians and 38 (82.6 percent) were non-Indians. Forty-one (89.1 percent) American Indian and 43 (95.6 percent) non-Indian graduates stated that their education at the college was appropriate for the positions they had held since graduation. For the 12-year study period, the number of additional degrees earned since graduating from the college was five for the non-Indians and two for the Indians. However, approximately 80 percent of each group reported having received an equal amount of professional or inservice training, or both.

For the two groups, the mean initial incomes (after graduation) and the mean incomes in the spring of 1985 were these:

Group ¹	Mean income (rounded)	
	Initial income after graduation	Spring 1985 income
Indian	\$22,841	\$34,762
Non-Indian	22,318	38,216

¹Two matched pairs were excluded from this analysis because at the time of the study two Indian graduates were enrolled in doctoral programs and had little or no income.

For statistical purposes, the increases for the two groups were compared after an adjustment for the number of years employed. For each graduate, an average increase per year employed was computed (1985 income minus initial income divided by total years employed). The mean increase per year employed for the Indian group was \$1,578.97 and for the non-Indian group, \$2,194.23. A paired *t*-test for testing statistical differences between the two groups revealed that the mean increases were not significant at the .05 level although they were significant at the .1 level.

The distribution of job classifications is presented in table 1. Eleven of 43 (25.6 percent)

Table 3. Job satisfaction of Indian and matched non-Indian graduates in public health, 1985

Variables	Indian respondents		Non-Indian respondents	
	Number	Percent	Number	Percent
Management lets you perform the job that you are capable of:				
Most of the time.....	35	81.4	32	78.1
Some of the time.....	4	9.3	6	14.6
None to little of the time.....	4	9.3	3	7.3
How do you feel you are performing your job?				
Adequate to very adequate.....	44	100.0	42	97.7
Fair.....	0	0.0	1	2.3
How do you feel you are compensated?				
Adequate to very adequate.....	31	72.1	35	79.5
Fair.....	8	18.6	7	15.9
Poor.....	4	9.3	2	4.6
How much recognition do you receive?				
Adequate to very adequate.....	25	56.8	35	77.8
None to little.....	19	43.2	10	22.2
Are you actively seeking another job?				
No.....	29	65.9	32	71.1
Yes.....	15	34.1	13	28.9
Would you accept another job at the same salary?				
No.....	24	58.5	25	61.0
Yes.....	17	41.5	16	39.0

non-Indian graduates and 19 of 44 (43.2 percent) Indian graduates considered their present job as line only, that is, directly related to attaining an organization's objectives as opposed to jobs—staff activities—that are indirectly related to organizational goals. Of the graduates considering their positions to be both line and staff, 24 of 43 (55.8 percent) are non-Indians and 23 of 44 (52.3 percent) are Indians.

At the time of this study, the typical Indian graduate directly supervised between 6 and 20 employees, whereas the typical non-Indian graduate managed between 1 and 5 employees (fig. 1). While 78.8 percent (26 of 33) of the Indian graduates and 88.9 percent (32 of 36) of the non-Indian graduates indicated they supervised 1 or more employees, 60.6 percent of the Indians were in charge of 6 or more employees, compared with 43.4 percent of the non-Indians. These reports were consistent with the 12.7 percent mean time the Indians reported having spent supervising or directing, or both, the 8.5 percent the non-Indians reported having spent, and the job classifications reported by both groups.

Furthermore, in their present jobs, 70.4 percent (19 of 27) of the Indian graduates were primarily accountable for a budget of \$1 million or more, compared with 33.3 percent (8 of 24) of the non-Indian graduates. The median budget for which the Indian graduates were responsible was in the \$1 million to \$5 million range; it was in the \$500,000 to \$1 million range for the non-Indians

Table 4. Employment status of Indian and matched non-Indian graduates in public health, 1985

Employer	Indian respondents		Non-Indian respondents	
	Number	Percent	Number	Percent
Indian health services.....	29	63.0	0	0.0
Nonhealth (unrelated to health).....	3	6.5	8	17.4
Other health (health-related jobs in non-Indian organizations).....	8	17.4	37	80.4
Students.....	2	4.3	0	0.0
Tribal or other Indians (jobs in tribal and other Indian organizations).....	4	8.7	1	2.2

(fig. 2). The greater responsibility in the construction and approval of the budget (table 2) that the non-Indians reported having may reflect an educational debit mentioned in the 1977 study (2) that showed that Indian graduates lacked knowledge in budgeting. It may also reflect the differences between private and public organizations in constructing and approving budgets.

The variables dealing with job performance, job satisfaction, job dissatisfaction, and income did not differ appreciably between the two groups (table 3). Approximately 98 percent of both graduate groups stated that they were performing adequately to very adequately on the job, and at least 78 percent of each group reported that their supervisors allowed them to work most of the time

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in the job for which they were capable. Although both groups made similar salaries, 43.2 percent of the Indians, compared with 22.2 percent of the non-Indians, reported that they had received no or little recognition or positive feedback from management. However, a difference was noted in the percentages of Indian and non-Indian graduates who earned awards: 40.9 percent and 34.9 percent, respectively.

Further, 42.2 percent of the non-Indian graduates and 44.2 percent of the Indian graduates reported little or no opportunity for advancement. As a consequence, approximately 40 percent of both groups state that they would accept another job at the same salary. In fact, 34.1 percent of the Indian graduates and 28.9 percent of the non-Indian graduates were actively seeking employment at the time of this study.

This study revealed that Indian graduates from the College of Public Health were occupying key administrative and staff positions in Indian health agencies. Approximately 71.7 percent (33 of 46) of the Indian graduates were employed by the Indian Health Service, in tribal health programs, and in other Indian organizations. (table 4).

According to the Bureau of the Census, the American Indian and Alaska Native population increased approximately 85 percent between 1970 and 1980. This increase may have resulted from a decline in the infant mortality rate for Indians or an increase in the birth rate, or both, plus the possibility that more persons declared themselves to be American Indians or Alaska Natives.

For the years 1978 and 1980, the birth rate for American Indians and Alaska Natives was 30.5, approximately twice that for all races (15.9). The infant death rate for Indians decreased by 77 percent from 1955 to a rate of 14.1 per 1,000 live births during the period 1978-80. This rate can be

compared with the infant death rate of 13.1 for all races in 1979 (3).

The American Indian population can be expected to continue to grow and to increase the health needs of Indians. The Indian Health Service estimated that approximately 931,000 American Indians would be eligible for health services in 1985 (3); the actual number was 963,000 (4). Hence, as the Indian Health Service's activities continue to expand, the shortage of health professionals who are qualified to serve American Indians will increase. The most recent data available from the Association of Schools of Public Health show that there were 54 American Indians and Alaska Natives enrolled in the 23 accredited schools of public health in 1984.

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